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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,458	08/18/2000	Alexander G. MacInnis	37259/SAH/B600	7111

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EXAMINER

BRIER, JEFFERY A

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/642,458

Applicant(s)

MACINNIS ET AL.

Examiner

Jeffery A Brier

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 18 October 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) a set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because

(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);

(b) ☐ They raise the issue of new matter (see NOTE below);

(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: _____.

Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see page 2.

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____

13. ☐ Other: _____.

Jeffery A Brier
Primary Examiner
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Response to Arguments

1. Applicant's arguments filed 10/18/2004 have been fully considered but they are not persuasive.

Applicant argues on page 14 second full paragraph:

Applicants cannot find in the above-referenced portions of the specification and drawings of Sporer et al., any disclosure for "[a] system on an integrated circuit chip comprising: an MPEG video decoder . . . and a system bridge controller having a north bridge function disposed between a CPU and a plurality of peripheral devices." This argued recitation is located in the preamble and it appears to be a non-functional limitation. The courts have upheld that a non-functional limitation in a claim may not be given patentable weight. The examiner has reviewed pages 128-136 and figure 40 and pages 180-188 and figure 60 and a functional reason for having the MPEG and Northbridge on the same integrated circuit is not found at the reviewed pages. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). With regards to method claim 22 the claimed step of "wherein the integrated circuit chip is used to process MPEG video data to generate video for displaying and to display the video," is met by a Northbridge integrated circuit chip that transports MPEG video data because the Northbridge chip does perform some

processing that is then completed by the MPEG circuit. Therefore the Northbridge chip is used to process the MPEG video data in a limited way to display the video which meets the claimed function.

Applicant argument on pages 14-15 is not persuasive because at column 7 line 64 Sporer teaches the PCI interface may be a target, thus, it does not control the bus, but inherently is being controlled by an external bus masters.

Applicant argues on page 17 that none of these references teach or suggest such integration of north video with video/graphics processing/displaying circuitry. Currently this claimed limitation is a non-functional limitation, however, if it were a functional limitation then applicant should make reference to two articles recently discovered which discusses integrating graphics and northbridge onto the same chip. Desktop PC-IC Content and Integration Trends By Scott Hudson -- *Electronic News*, 3/1/1999 which may be found at <http://www.reed-electronics.com/electronicnews/article/CA69496.html>. This article states in the second paragraph "For example, graphics can be integrated into the northbridge of the core logic chip set, audio can be combined with the modem, and even L2 cache can be added to the MPU."

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Desktop PC-IC Content and Integration Trends

By Scott Hudson -- 3/1/1999

Electronic News

Since the mid-1980s, the PC has been the favored market of most semiconductor companies. During that period, numerous suppliers vied for the memory, graphics, audio, core logic, and MPU real estate on the motherboard and daughter cards. By the mid-1990s, there were clear indications of consolidation as the strongest IC suppliers moved into new areas and took more sockets.

Today this movement toward consolidation of the PC supply base has been further

strengthened by functional integration. For example, graphics can be integrated into the northbridge of the core logic chip set, audio can be combined with the modem, and even L2 cache can be added to the MPU.

*Scott Hudson is a
Senior Analyst for
PC technology at
Cahners In-Stat*

The overall result of consolidation and integration is that some semiconductor companies that once supplied the PC industry, like LSI Logic Corp. and Cirrus Logic Inc., are now looking for new markets in the telecom, storage, and consumer areas. Chip companies that decide to stay in the PC market must carefully analyze their strengths and focus on specific high value functions.

Two such areas where differentiation is possible are advanced audio and high-end 3-D graphics. Many of the other ICs in the PC box provide basic functions and are difficult to differentiate. Specifically, super I/O, cache memory, and BIOS memory are prime targets for integration.

Cahners In-Stat Group estimates that the total IC revenue for desktop PCs reached \$34.8 billion in 1998 and forecast to grow to more than \$67 billion by 2003 (Table 1).

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These numbers include only those ICs that are on the motherboard or on daughter cards. The ICs in closed sub-systems like the disk drive or CD ROM drive are not included in these numbers. Also semiconductors and ICs used in power management are not included these IC revenue totals.

Table 1 - Total Desktop IC Revenue, Desktop Units, Revenue Per Desktop

	1998	1999	2000	2001	2002	2003
Desktop IC Revenue (\$M)	34,858	38,670	41,145	55,560	62,434	67,034
Units (M)	79,577	87,730	97,482	112,290	127,535	144,620
IC Revenue/Desktop (\$)	438.02	440.78	483.64	494.79	489.54	463.52

SOURCE: CAHNERS IN-STAT GROUP

In 1998, the IC revenue per desktop was \$438. From 1998, the IC revenue per desktop is forecast to increase to \$463 by the year 2003. Much of the fluctuation in IC revenue per desktop is due to the main cost drivers of MPU and main memory.

Cahners In-Stat Group forecasts that pricing for MPUs should increase overall as Intel Corp. ramps production of the Katmai. Further, DRAM pricing should stabilize due to the slightly higher-priced 100MHz parts and later the Rambus part.

A brief overview of trends in desktop ICs is provided below.

MPU - Intel will remain the dominant player with increasing competition from Advanced Micro Devices Inc. and the Cyrix Corp. subsidiary of National Semiconductor Corp. at the low end. Katmai or Pentium III will be the next generation of Intel MPUs.

Core logic - Again, Intel will be in the driver seat here. There is a growing market for non-Intel systems that use the super seven platform. Also, the major non-Intel core logic suppliers, VIA Technologies Inc., Silicon Integrated Systems Inc., and ALI Technologies Inc., do offer core logic for the Intel slot 1 platform. It should be mentioned that only VIA has a licensing agreement with Intel and is totally free from any legal action.

Super I/O - This chip is expected to decline and eventually disappear. The functions of this chip are expected to be incorporated into the core logic chip set.

Graphics - 3D graphics are now expected on all home PCs and will migrate to the

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corporate desktop. The strongest suppliers are ATI Technologies Inc., Matrix Graphics Inc., and Nvidia Corp. but there is intense competition. Cahners In-Stat Group sees graphics approaching video quality in the 2000 timeframe.

Main Memory - DRAM for PCs is a major component of the total IC industry. Pricing is expected to stay firm due to the transition to slightly higher priced faster SDRAM and Rambus. Also, during the last several years very little fab capacity was added and PC demand looks to be strong through the forecast period.

Graphics Memory - Stand-alone frame buffer memory will be necessary in medium and high end PCs. Many of the new cutting edge graphics chips are designed to support 32MB so this should remain a vibrant market. The low end of the PC market might shift to a Unified Memory Architecture type solution where the main memory is used instead of separate memory.

Cache Memory - Most Pentium II class PCs are now shipping with 512KB of SRAM. Going forward, SRAM will be incorporated into future generations of Intel MPUs. It is expected that AMD and Cyrix will follow this lead essentially phasing out the market for separate SRAM.

BIOS Memory - A BIOS chip is needed in every PC which creates a relatively stable and predictable scenario. Pricing is expected to decline slightly due to the mature nature of the flash technology and the established supply base will not be challenged by any upstarts.

Audio - Audio has transitioned from the traditional ISA bus to the PCI bus, which delivers much better sound quality. There are at least four ways to implement PCI - based audio. For the low end, host based audio is forecast to be most popular. At the high end, a separate audio controller or DSP is required. For the mid-range the audio can be combined with graphics or modem. All of the PCI audio solutions require a separate codec.

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Modem - The percentage of PCs with internal modems are expected to decline through 2002. Meanwhile, external modems will continue to have a strong and vibrant market. New technologies with enhanced bandwidth are xDSL and cable modems which will become more common in the 1999-2000 timeframe.

NIC - NICs are used to connect corporate PCs to each other and the internet. The major trend is toward fast ethernet at 100Mbps and is available on a card or on the

Table 2 - Desktop IC Revenues by Category

	1998	1999	2000	2001	2002	2003
MPU	19,011	20,998	26,496	30,532	32,560	32,382
Core Logic	3,435	3,853	4,485	4,537	5,019	5,403
Super I/O	206	131	71	26	0	0
Graphics	1,029	1,170	1,189	1,278	1,348	1,431
Main Memory	6,958	8,811	11,017	15,617	19,965	24,124
Graphics Memory	868	1,040	1,430	1,521	1,662	1,777
Cache Memory	564	402	137	0	0	0
BIOS Memory	216	224	241	259	263	305
Audio	459	400	378	371	330	312
Modem	629	506	387	289	239	234
NIC	1,242	1,074	1,023	713	645	632
Other	239	263	282	337	383	434
Total	34,856	38,670	47,146	55,560	62,434	67,034

motherboard.

Source: Current Industry Reports

Desktop revenues by IC category are listed in Table 2.

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Basic Notebooks Infrastructure In Place - Trident introduces Monterey chip; Neomagic re-engineering products Electronic News, Sept 28, 1998 by Peter Brown which may be found at http://www.findarticles.com/p/articles/mi_m0EKF/is_n2238_v44/ai_21172858.

This article states in the third paragraph "The company last week, in conjunction with AMD's announcement of a 300MHz version of the K6 for mobile PCs, introduced what it calls the Monterey, an integrated graphics chip that combines 3-D core technology with the Northbridge core logic."

[FindArticles](#) > [Electronic News](#) > [Sept 28, 1998](#) > [Article](#) > [Print friendly](#)

Basic Notebooks Infrastructure In Place - Trident introduces Monterey chip; Neomagic re-engineering products

Peter Brown

Graphics vendors claim 'never before seen' capabilities are on the way
SAN JOSE, CALIF.—

One of the increasingly popular features in notebook PCs is multimedia, specifically graphics and video applications. Multimedia accelerator chips usually come with some sort of price penalty, thereby driving up the cost of the overall mobile system. However, as more of the notebook community demands this functionality, more notebook OEMs are going to be required to integrate multimedia at a reasonable cost.

One of the more unusual aspects of moves by AMD and Intel in the basic notebook PC market (see related story, page 1) is the effect on graphics companies that followed it. For example, Trident Microsystems had recently fallen on tough times, losing most of its market share in the desktop graphics realm and struggling to make a name for itself in the notebook graphics market. However, the company has continued to forge ahead and, until this point, has survived.

Now it looks as if Trident may be making a bid to be the graphics vendor of choice in these sub-\$1,300 notebooks. The company last week, in conjunction with AMD's announcement of a 300MHz version of the K6 for mobile PCs, introduced what it calls the Monterey, an integrated graphics chip that combines 3-D core technology with the Northbridge core logic. Trident formed a strategic partnership with VIA and Acer Labs to bring this

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technology to market. Trident supplies the graphics, and VIA and Acer supply the core logic.

"We realize the longevity of Socket7/Super 7 processors and believe that we can enable a chip that will let users have high quality graphics without having to pay a major premium for those graphics," said Gerry Liu, senior VP of marketing at Trident.

Trident is not only targeting the Monterey at the notebooks but will be focusing it toward the desktop Socket 7 sub-\$1,000 PC segment as well as where AMD claims it controls 50 percent of the market.

The Monterey will be based on a 0.25-micron, 5-layer metal manufacturing process and contain up to 3 million transistors. Trident said the device will have two-thirds the performance of Trident's Ferrari graphics accelerator which, in turn, is said to be comparable to Nvidia's much touted Riva TNT device. Production for the notebook Monterey is slated to begin in 2H99 with the desktop version slated to come out in 1H99.

"This chip will eliminate the need for the AGP bus and is going to be similar to the Whitney from Intel that promises to integrate the Northbridge in with graphics as well," said Mr. Liu. "However, this chip is for Socket 7 and a high level of integration will be much cheaper than Slot 1 while maintaining a high performance, meaning the basic PC and basic notebook markets will both have graphic capabilities never before seen."

Other ways notebook graphics vendors are driving down the cost of overall notebooks while making them more attractive to users is by enhancing older generations of graphics chips while continually driving the price down. One company doing this is notebook graphics leader NeoMagic.

NeoMagic is taking its previous generation of graphics chip, the MagicGraph 128ZV and re-engineering it to add new features and higher quality concerns to hit this emerging entry-level notebook segment marketplace.

"We had a view in the past that the notebook market would be segmented into high and mid-range segments and with the desire from users to have graphics in all PCs, we knew we would have to compete somewhere down the line so we re-engineered our MagicGraph 128ZV and now it is selling well in that segment," said Mark Singer, senior staff for strategic business planning at NeoMagic.

NeoMagic, which is estimated by industry analysts to have a 50 percent market share in the notebook graphics market, is playing to both Socket 7

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and Slot 1 notebooks and has decided to play "Swiss neutral" in regards to what it supports, Mr. Singer said.

Taking yet another approach is ATI Technologies, which is looking to enable DVD, 3-D support and a new embedded memory technology for a new set of devices, rather than refurbishing older devices. According to Lou T. S. Leung, director of mobile components marketing for ATI, the company wants to enable products at the sub-\$1,300 level that are high quality and that OEMs will actually want to have integrated into their designs.

"With all these additional features you won't be seeing much change in terms of price of the actual graphics chips but you will see price breaks in the memory area, DVD and video that will help drive notebooks down overall," said Mr. Leung. ATI is also integrating video-out capability, LVDS transmitters on-chip, and claims to be the only company integrating a software DVD offering on-chip. U

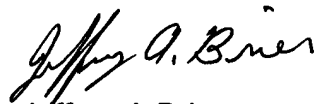
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Applicant needs to amend the claims to more specifically claim applicants invention in order to overcome the Sporer et al. reference.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:00 to 3:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffery A Brier
Primary Examiner
Art Unit 2672